

FLIGHT

The
AIRCRAFT
ENGINEER
&
AIRSHIPS

First Aero Weekly in the World

Founder and Editor: STANLEY SPOONER

A Journal devoted to the Interests, Practice, and Progress of Aerial Locomotion and Transport

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EDITORIAL COMMENT



THE scheme propounded by Mr. A. H. Ashbolt, the Agent-General for Tasmania, should be adopted, not only will the British airships be saved from the knacker's yard, but they will be used immediately for the purpose of opening up an Empire-wide air mail service. Considerable correspondence, we understand, has passed between Mr. Ashbolt and the Colonial Office, and has been issued by him for publication. From this it emerges that the purpose of those interested in the scheme is to form an Imperial Air Co. to take over and utilise the airships, plant and other materials now held by the British Government, and which the latter is willing to hand over to such an organisation as that which is now proposed should be created.

In brief, the proposal, as was mentioned last week in *FLIGHT*, is that the Imperial Air Co. should have a capital of £1,500,000, of which 50 per cent. should be issued at once. The Indian, South African and Australian Governments should subscribe each £100,000, the New Zealand Government £55,000 and that of the Malay States £20,000, a total of £375,000. An equal amount should be subscribed by the general public, while, of course, Great Britain's contribution would consist of the airships, material, etc. The latter would be a free gift, not ranking as capital, but it would be open to the British Government to take up the whole or any part of the share capital of £375,000 which the scheme outlines as being issuable to the public. There is an alternative scheme of distribution, but as this merely deals with the same figures, differently distributed as to amount among the various Governments, we need not trouble to quote its details.

All the Governments concerned would be required to undertake to send mail matter by air between Great Britain and the countries named, subject to the provision that the rates of carriage should not exceed those charged by the steamship services. The Governments would also be required to share profit and loss for a period of ten years, after which time the company would be expected to stand on its

DIARY OF FORTHCOMING EVENTS

Club Secretaries and others desirous of announcing the dates of important fixtures are invited to send particulars for inclusion in the following list:

| | |
|--------------|---|
| June 19-21 | Grand Prix A6.C.F., 3rd stage |
| July 2 ... | Aerial Pageant (Hendon) for R.A.F. Memorial |
| July 6 ... | Entries close for Aerial Derby |
| July 16 ... | Aerial Derby |
| July 29-31 | Jacques Schneider Cup, Venice |
| Aug. 1-2 | Cowes Seaplane Races |
| Aug. 27 ... | Entries close for Coupe Deutsch |
| Sept. 4-11 | Brescia Races |
| Sept. 10 ... | Pulitzer Trophy, Detroit, U.S.A. |
| Sept. 18 ... | Gordon Bennett Balloon Race |
| Sept. 25- | |
| Oct. 2 | Aero Exhibition, Prague |
| Oct. 1 ... | Coupe Deutsch de la Meurthe |
| Nov. 12-27 | Paris Aero Salon |

own feet. This scheme is to be submitted to the Imperial Conference when it meets, as it will in a very short period from now.

A Good Scheme *Primâ facie* at least, the scheme seems to be a good one, and one that promises not only to rescue the airships from the fate to which they have been condemned, but to ensure that these craft shall have a real chance of showing the commercial potentialities of the airship. At any rate, it is a workable scheme, and has the merit of making the Governments concerned shareholders in aerial enterprise, which would ensure that they would take a real and close interest in development instead of manifesting the languid outlook upon matters aerial which is so characteristic of our own Government, if not of the others. There is only one point of criticism we can see, and that is in relation to the alternative provided of issuing the shares offered to the public to the British Government. For one thing, the British taxpayer is to provide the airships and material, free, and we do not think that Government money ought to be asked for in addition unless it is impossible to obtain it by public subscription. Incidentally, with the active backing of the Dominion and Colonial Governments, there ought not to be the smallest difficulty in getting the public to subscribe the comparatively small amount of £375,000.

The principal objection to complete Government ownership of such a line would be that of Government control free from civilian business management. We should not like to go so far as to say that this would be a direct invitation to disaster, but to put it in the mildest possible manner it would not make for 100 per cent. efficiency. The lesson of the Post Office is too eloquently present as a demonstration of what pass Government methods of administration can reduce a business which ought to be paying handsomely. Still, we had rather see the proposed Company formed with public money entirely than that so promising a scheme should remain untried. We should not say this if we had the smallest doubt as to the practicability of running airships at a commercial profit, after the initial term of experiment and trial has been passed.

The Independent Air Force

Although the Independent Air Force, which contributed much more to our victory in the War than is realised by most people, has long ceased to exist as a *de facto* organisation, it is pleasing to know that its component parts are still being kept together so far as is possible in the circumstances of peace. Every year the officers of the Force foregather, under the presidency of Sir Hugh Trenchard, who commanded it in France during the War, to meet old friends and exchange confidences. Their next meeting is to take place on Monday next, when Capt. the Hon. F. Guest, M.P., the new Secretary of State for Air, will be present, and we have thus taken the opportunity of briefly referring to the I.A.F. and its work in war. We regard these annual meetings of a force which for the moment has no concrete existence, but which might well be called into being again almost at any time—having regard to the appearance of the political horizon—as being exceedingly valuable to the nation. They

assist in the maintenance of that spirit of *camaraderie* which is essential to the well-being of a service, even when the latter is, so to say, being held in reserve against emergency.

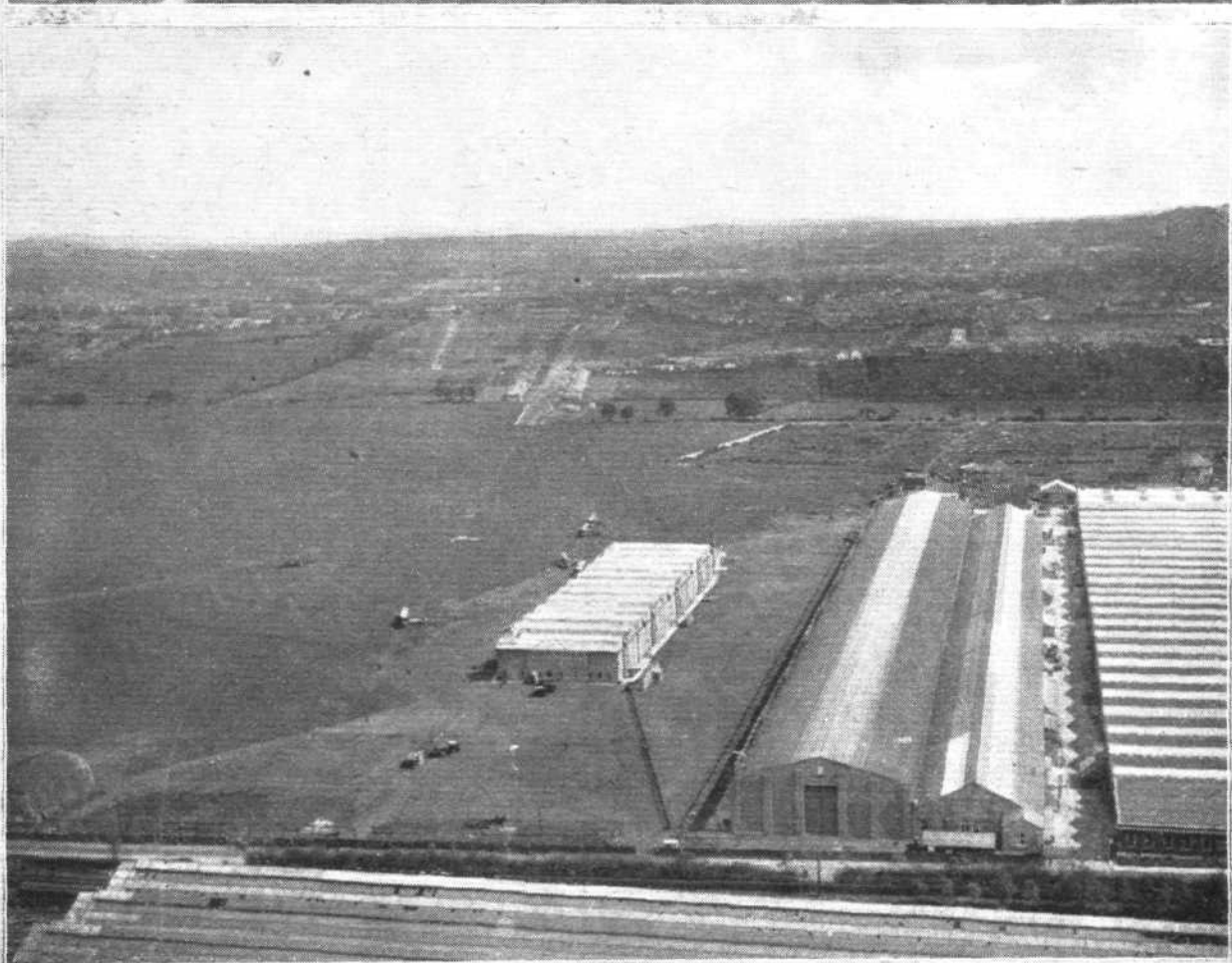
The work of the I.A.F. in France was, as we have said, of the very greatest value. The material damage done to the enemy was heavy—much heavier than was thought generally at the time—but this was small in comparison with the effect produced on German nerves by the continuous threat which the Force constituted. This effect had no small part in getting the enemy into the proper state of mind to accept the idea of defeat. But what the I.A.F. did in the late War may be but a circumstance to what it would, if reinstated, be called upon for in the next, supposing there to be another great war in our time—which Heaven forbid. We must be prepared for any eventuality of the kind, however, and that is why we like the idea of Sir Hugh Trenchard in keeping closely in touch with those who served under him in the War. It is admirable, and the custom will, we hope, be preserved for years.

Aviation in the West Indies

A West Indian Aviation Committee has recently been formed, with the approval of the Colonial Office and the Air Ministry, the object of which is to further the possibilities of commercial aviation in the West Indies. The Committee held its first meeting in London recently, at which a great deal of highly interesting information was forthcoming regarding the possibilities of flying in the islands. They appear to offer an excellent field for the employment of aircraft, particularly of the amphibian type. It was pointed out at the meeting that, although most of the islands are no more than fifty miles apart from each other, communications are difficult and uncertain. Mails are dependent upon a Canadian service which visits the islands once every fortnight. The island of Montserrat, for instance, is not even in telegraphic communication with the outside world, and urgent messages have to be sent by sailing craft, which are often becalmed for days. A single flying boat could visit the whole of these islands in a couple of days.

British Guiana also offers a very fine field for aerial enterprise. Its chief need at the moment is for aerial survey, or at least reconnaissance. Very little is known about the interior, which is mostly almost impenetrable forest land. A little has been done in this direction by the Bermuda and West Atlantic Aviation Company, which runs pleasure flights for tourists as its main purpose in life. This Company is, as has been previously mentioned, at present surveying, under contract, certain concessions owned by the British Controlled Oilfields on the Orinoco, in Venezuela. This work has only been started recently, but there is every reason to believe that the results of the survey will be highly successful.

There is not the slightest doubt that it is in countries such as these, that aircraft can be of inestimable use in opening up new communications, improving those already existing, and in generally assisting to augment knowledge of the interior and its possibilities for trade and development, even more than along the more beaten tracks of civilisation, where communications are reasonably good, and where aircraft are able only to demonstrate the advantage—great, admittedly—of very high comparative speed.



LONDON-PARIS FROM THE AIR: Two London-Paris terminals.—The lower photograph shows Cricklewood aerodrome from above. Up till recently this was the London terminus of the Handley Page service. Like those of other firms the machines now start from Croydon. The upper picture shows the Paris air port, Le Bourget, as the passengers see it when the machine is coming in to land. Both photographs were obtained from a Handley Page aeroplane. (See page 402.)

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In the latter case, aerial travel must in present circumstances be regarded as auxiliary to other modes of transport—though its day is rapidly coming, when it will be possible to reverse the order of things. In the former, the case is all the other way. Communications do not exist at all, or if they do, it is in

very primitive form, and the countries concerned can be opened up in no other way than by the use of aircraft if only for purposes of preliminary survey. It is not at all too much to say that already aircraft have shown themselves to be absolutely indispensable for use in the newer countries of the world.



LONDON-PARIS

As Seen Through the Camera—and the 'Plane

ARCHIMEDES is reported once to have said, that, given a fixed point in space, from it he would undertake to move the earth. Although aircraft has not yet enabled us to accomplish the project of the old philosopher, it has provided us with, if not a fixed point in space, at any rate, a point of vantage from which to contemplate old Mother Earth in an entirely new aspect. The privilege of doing so as regards the small strip lying between London and Paris can now be purchased for the modest sum of six guineas, and a very pretty strip it is, seen from an altitude of a couple of thousand feet, there or thereabouts. There is little doubt that, of the hundreds of passengers who make the journey to Paris by air, many do so for the sake of the entrancing views obtained, although such items as comfort and speed no doubt influence others to a great extent.

As it is obviously impossible for all of FLIGHT's readers to make the journey to Paris by air, we have thought that a good substitute in the shape of aerial views of the trip might not be unacceptable to those who are not fortunate enough to be able to make the journey for themselves. By the courtesy of Messrs. Handley Page Transport, Ltd., we have

been able to make arrangements to publish a very fine series of aerial views of various points along the route, photographed from one of the Handley Page machines which every week carry passengers to and from Paris.

These views were taken while the Handley Page service still used Cricklewood as their London terminus. This has now been removed to Croydon, but as starting from Cricklewood had the advantage of showing passengers considerable stretches of London not touched by the machines which leave from, and arrive at, Croydon, we have decided to make the start of our photographic journey from the former air port, and thus give our readers the benefit of views of central London.

We make a start this week with two views (on page 401) of the terminals, Cricklewood, for London, and le Bourget, the air-port of Paris. We hope to follow up these by publication in forthcoming issues of full-page views of points *en route*, most of which will be found charming in the extreme, and all of which are of interest, either as showing new places or for the novel aspect of well-known spots which the aerial view affords.



LONDON-PARIS FROM THE AIR: Off to Paris. A snap, taken on board a Handley Page aeroplane, when in flight for Paris, of pilot Lieut. Macintosh and his engineer.

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THE KLEMIN AMPHIBIOUS GEAR

SOME interesting tests were carried out recently, before the U.S. Navy Dept. at Lake Erie, with an amphibious gear fitted to a Curtiss MF flying boat. Our American contemporary, *Aviation*, gives a few particulars of this gear, which we give herewith, together with a sketch we have prepared showing a Curtiss MF hull so fitted out.

This landing gear was developed by Messrs. Alexander Klemin and Associates, consulting engineers of New York, and constructed by G. Elias and Bro., Inc., Buffalo, N.Y. Satisfactory results were obtained during the trials, the machine taking off from the land several times and alighting on the rough waters of the lake. It also successfully flew from the water and alighted on the land. The gear consists of two main parts—the landing gear proper and the tail skid, both of which are retractable, but it is to the former we will confine most of our remarks.

The designers were somewhat handicapped by the fact that the hull of the MF boat has projecting fins, which rendered it necessary to have a large overhang in the wheel supports. Some internal strengthening was required, also, to permit the hull structure to take the loads encountered when landing on *terra firma* instead of on the water, for which the hull was designed. The landing gear proper is supported by an axle of large diameter passing through the hull, immediately behind the passengers' seats and in front of the petrol tank. This axle projects a considerable distance from the side of the hull in order to clear the fins, but, of course, in a hull specially designed for this gear, or one without fins, the overhang would be unnecessary. The overhang of the axle is braced to the sides of the hull by two faired steel tubes (A) running to points near the top of the hull. Inside the hull the axle is fitted with a gear wheel segment, which is acted on by a worm gear fitted to a shaft with a control wheel at the top. A drum is also attached which carries the tail skid

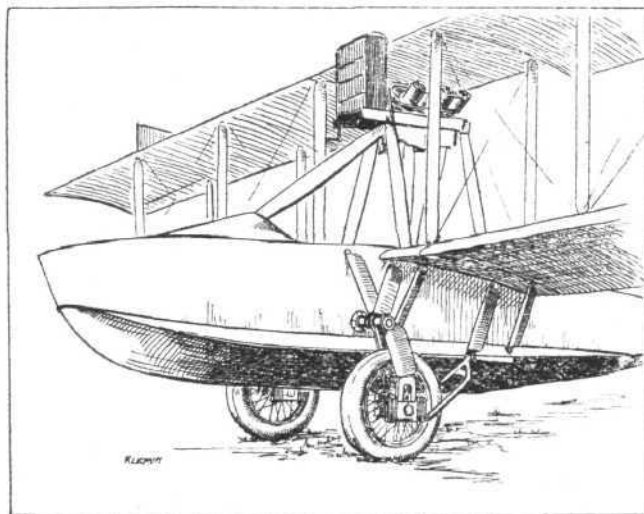
the horizontal load is taken by a steel tube fork, attached at the open end to the base of the "A" struts and anchored at the other end to a slide working on the edge of the hull fin. The stop is braced to the side of the hull by a faired steel tube and a wire cable.

The tail skid and its mechanism, which were designed by Mr. Stupar, Superintendent of Construction, G. Elias and Bro., Inc., are attached to a fitting mounted on the lower end of the stern post. A special stern post fitting was designed for the purpose, which distributes stress over a considerable portion of the after end of the hull. This consists of a steel tube $1\frac{1}{4}$ ins. diameter, 14 gauge, reinforced at the point of greatest bending moment with a $\frac{1}{4}$ -in. wall steel tube, which is held in place at a point near the centre in a fitting which allows it to revolve upon its axis, in order to provide for side thrust.

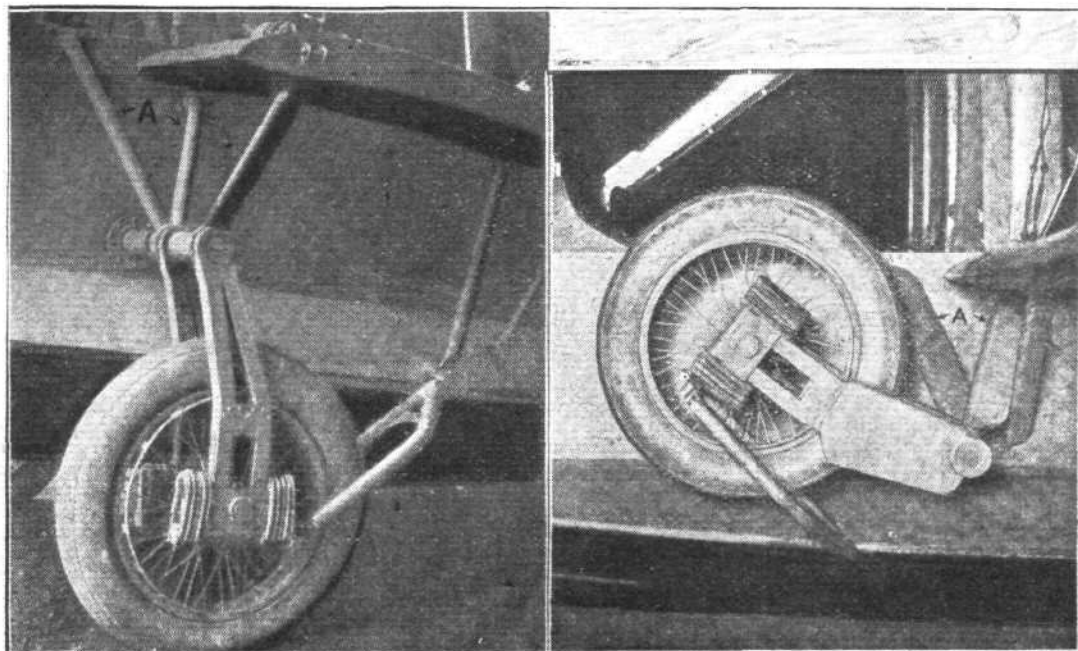
The fitting on which it is mounted is itself fastened to the tail post fitting in such manner as to provide for vertical movement. The lower end of a short steel strut is also hinged to this fitting at its lower end. The upper end is held rigidly by a specially designed hook which engages a pin through the top of the strut at either side, and which in turn is held by a bolt passing entirely through the rear end of the hull, transmitting the stress to the stern post fitting by means of extensions provided for the purpose. The upper end of the tail skid is held to this strut by means of six wraps of shock-absorber cord, which provides the proper resiliency when landing on the ground.

The tail mechanism is so connected with the drum on the main shaft that it operates in conjunction with the landing gear, so that they both retract simultaneously, and are easily operated by the pilot from the cockpit in 15 secs. time. This is a big feature, as some of the gears designed heretofore required a separate operating for each component.

The retractable tail skid also prevents this component from



The Klemin Amphibious Gear: Sketch showing general appearance of the gear fitted to a Curtiss MF flying boat.



The Klemin Amphibious Gear: The view on the left shows one of the wheels lowered in position for landing, and on the right it is shown raised.

operating wires. Keyed on each end of the axle are two "A" struts carrying in between them a wheel, the axle of which slides between the limbs of the "A" struts. Four sets of rubber shock-absorbers are wrapped around cross pieces on the wheel axle, and over pins on the ends of the "A" struts. On rotating the main axle, by means of the worm gear, the wheels are swung up along the sides of the hull. When the wheels are down in the position for land work

adding any unnecessary resistance when the boat is gaining planing speed on the water. Alexander Klemin and Associates have studied the application of this gear to a number of flying boat hulls, also to twin float machines; and have applied for patents on a variety of forms as well as on the fundamental principle. They are offering to apply such a gear to any flying boat or twin float machine in which builders or owners of such planes might be interested.

THE ROBINSON-CUFFLEY MEMORIAL

AN important gathering took place at Cuffley, Herts, on June 9 to participate in the Dedication of the Memorial which has, through the instrumentality of the *Daily Express*, been erected upon the site where "L.21," the first German airship raider to be destroyed on British soil, was brought down by the late Capt. William Leeffe Robinson, V.C., R.F.C. The

The site was presented to the public by Mrs. J. M. B. Kidston, of Nyn Park, Northaw. A guard of honour was supplied by the Royal Air Force, buglers of the force sounding the Last Post and the Réveille. A prayer was said by the Rev. F. R. Bonsey, Vicar of Northaw, and the lesson was read by the Chaplain-in-Chief of the Royal Air Force, the Rev. H. D. L. Viener. Mr. R. D. Blütenfeld, editor of the *Daily Express*, whose readers subscribed to the Memorial, briefly explained how the obelisk came to be erected "as a spontaneous tribute to the heroism of a national figure, whose name shall live for ever."

The memorial is an obelisk of Cornish granite, 17 ft. high, on a solid base, steps and plinth, with old English York paving-stone and iron railing. The laurel-wreath and badge of the Royal Flying Corps in bronze surmounts the following inscription on the front:—

Erected by readers of the "Daily Express" to the memory of
**CAPTAIN WILLIAM LEEFFE
ROBINSON, V.C.,**
Worcs. Regt. and R.F.C.

Who on September 3, 1916, above this spot, brought down L.21, the first German airship destroyed on British soil.

The site of this monument was presented to the public by Mrs. J. M. B. Kidston, of Nyn Park, Northaw.

On the sides is the account of the deed that won the V.C., with a record of Captain Robinson's captivity and death.

Among those present were three sisters of Captain Robinson, the Baroness Heyking, Mrs. Irwin, and Mrs. Ross; Miss Constance Robinson, an aunt; Baron Heyking, Mr. J. W. Irwin, Air Vice-Marshal Sir John Salmond, Admiral Murray Sueter, Major-General Sir Frederick Sykes, Sir William Joynson-Hicks, M.P., Mrs. J. M. B. Kidston, Mr. and Miss Wilson-Fox, Captain J. L. Hawkesworth, Alderman and Mrs. Alex. Purkin Ginn, Mr. and Mrs. P. H. Fox, Councillor and Miss Searles, Mr. George C. Maile, Mr. J. Burwick Thompson and Captain Scott.



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THE ROBINSON-CUFFLEY MEMORIAL: At a corner of the Monument. The Rt. Hon. F. E. Guest, D.S.O., Secretary of State for Air, who unveiled the memorial; General Sir Frederick Sykes, etc.

beautiful obelisk was provided especially to perpetuate the memory of Capt. Robinson's association with the feat, and the occasion was duly honoured by a number of Air Ministry officials, the actual unveiling being performed by Capt. F. E. Guest, Secretary of State for Air.



"Flight" Copyright

THE ROBINSON-CUFFLEY MEMORIAL: The scene during the Dedication Ceremony, and on the right the plinth of the memorial.

THE TAMING OF THE AIR

"The Air and its Ways" was the subject which Sir Napier Shaw, Honorary Fellow of Emmanuel College, and Professor of Meteorology, Imperial College of Science and Technology, selected for the annual Rede Lecture at Cambridge last week. After digesting Sir Napier's description of the world's atmosphere, it is little wonder that all looking to the future of aviation are anxious to see the element of the air scientifically and properly mapped out as speedily as possible, second only to the wonderful charts of the seas. Sir Napier said that in bulk the ways of the air were quite as peculiar as those of the Heathen Chinese. The air as we knew it in the laboratory was a very mobile fluid; yet in the atmosphere it managed to take on a sufficiency of the character of an elastic solid. It did not go the way it was pushed. Pushed north, it went east; and pushed east, it went south. The condition for its going north was that it should be pushed west. If they blew a jet of air straight upward they might find that part of the effect was a vortex whirling around them. In front of its fire—the sun—the air would very likely get colder instead of warmer. Losing heat by exposure to the clear sky on a cold night it might get warmer. In spite of all that they taught in the laboratory about the levitating effect of warmth, cold air floated above them with warmer air beneath. If they told the air that warm air rose, it winked an eye and interjected an "if" and a "when."

If the Olympian gods felt cold and thought to make themselves warmer by stirring up their chilly air with the warmer air enjoyed by mortals down below, then they would be disappointed. Stirring up made them colder and us warmer. If they shook air up violently water fell out of it, and if the shaking went on long enough the air would become intolerably dry. Not only had the air the innate capacity for these conjuring tricks, but it never, or hardly ever, failed to use

them. Sir Napier said he wished to generalise the atmospheric processes in such a way as to make them amenable to established physical laws.

He regarded the atmosphere as a great steam engine. A steam engine had a boiler, a condenser, and a flywheel. The boiler of the atmosphere was the warm surface of the earth and sea; the condenser some cold surfaces in the Polar regions and great mountains, but principally the cold regions of the upper air. The flywheel was made up partly of the normal winds and partly of the semi-permanent winds of cyclonic depressions. He regarded cyclonic depressions as the direct effect of the working of the atmospheric engine. The normal winds grouped themselves into two great circulations—on one hand, a great circumpolar circulation in the upper air in which air travelled from west to east, and, on the other hand, a comparatively narrow equatorial belt of air continually passing westward. Between the two, over the great oceans, were permanent anticyclonic circulations, huge travelling bands of air, a couple of thousand miles long (W. to E.) and a thousand miles wide (N. to S.). They reminded one of the driving belts of "tanks." As they moved round and round like a cog-belt they carried forward the westward moving air of the equatorial circulation on the south side and the eastward moving air of the polar circulation to the north side. They were thus the gear that kept the main fly-wheels of the atmosphere in working order. He attributed much importance to this aspect of the flywheel. It was what long-distance travellers in the air had chiefly to think of in the ways of the air. By taking advantage of the equatorial portion in the fifteenth century Columbus reached America, and similarly in the twentieth century, by taking advantage of the circumpolar part, Alcock crossed the Atlantic in an aeroplane in sixteen hours.

THE LONDON-CONTINENTAL SERVICES

FLIGHTS BETWEEN JUNE 5 AND JUNE 11, INCLUSIVE

| Route† | No. of flights* | No. of passengers | No. of flights carrying | | No. of journeys completed | Average flying time | Fastest time made by | Type and No. (in brackets) of Machines Flying |
|-----------------------|-----------------|-------------------|-------------------------|-------|---------------------------|---------------------|-----------------------------|--|
| | | | Mails | Goods | | | | |
| Croydon-Paris ... | 33 | 134 | 6 | 19 | 32 | 2 30 | D.H.4a G-EAWH (1h. 53m.) | B. (7), D.H.4 (1), D.H.9 (1), D.H.18 (2), G. (3), H.P. (2), Sa. (1), Sp. (2), V. (1). |
| Paris-Croydon ... | 41 | 166 | 18 | 27 | 37 | 2 51 | Spad F-ACMH (2h. 15m.) ... | B. (7), Bt. (1), D.H.4 (2), D.H.9 (1), D.H.18 (2), G. (3), H.P. (3), Sa. (1), Sp. (6), V. (1). |
| Croydon-Brussels ... | 7 | 8 | 4 | 5 | 7 | 2 16 | D.H.4 G-EAXF (1h. 50m.) | D.H.4 (3), D.H.9 (1). |
| Brussels-Croydon ... | 6 | 8 | 4 | 4 | 6 | 2 45 | D.H.4 O-BARI (1h. 59m.) ... | D.H.4 (1), M. (1). |
| Croydon-Amsterdam ... | 6 | 4 | 6 | 6 | 6 | 4 24 | Fokker H-NABQ (3h. 29m.) | F. (3). |
| Amsterdam-Croydon ... | 6 | 10 | 4 | 4 | 6 | 3 30 | Fokker H-NABI (3h. 0m.) | F. (3). |
| Totals for week ... | 99 | 330 | 42 | 65 | 94 | | | |

* Not including "private" flights.

† Including certain journeys when stops were made *en route*.

‡ Including certain diverted journeys.

Av. = Avro. B. = Breguet. Br. = Bristol. Bt. = B.A.T. D.H.4 = De Havilland 4, D.H.9 (etc.).
 F. = Fokker. Fa. = Farman F.50. G. = Goliath Farman. H.P. = Handley Page. M. = Martinsyde. N. = Nieuport.
 P. = Potez. Sa. = Salmson. Se. = S.E. 5. Sp. = Spad. V. = Vickers Vimy. W. = Westland.

The following is a list of firms running services between London and Paris, Brussels, etc., etc.:—Co. des Grandes Expresses Aériennes; Handley Page Transport, Ltd.; Instone Air Line; Koninklijke Luchtvaart Maatschappij; Messageries Aériennes; Syndicat National pour l'Étude des Transports Aériens; Co. Transaérienne.

Jersey Asks for Air Mail

MEMORIALS to the Postmaster-General have been addressed by the Jersey Chamber of Commerce, through the Association of British Chambers of Commerce, asking for the institution of an air mail service between England and the Channel Islands, and for the erection of a commercial wireless station for vessels and aircraft.

It is pointed out that the Channel Islands are admirably adapted to the use of a service of amphibian machines from the Thames, and that there is a great demand for a more rapid service of letters, as well as newspapers, fish, flowers, and perishable fruit. A commercial wireless station, it is

urged, would enable vessels to notify their time of arrival, and be useful in case of accident.

Proposed Air Service between Montevideo and Buenos Aires

It is announced that the Uruguayan postal authorities desire to enter into an arrangement with those of Argentina for the establishment of an aerial postal service between Montevideo and Buenos Aires. It is suggested that the ordinary postal tariff for this new service should be 25 cents. (Uruguayan gold), and that the Uruguayan aeroplane should leave Montevideo daily at 8 a.m., whilst that from Argentina would leave Buenos Aires in the afternoon.



JUNE 16, 1921

THE ROYAL AERO CLUB OF THE U.K.

OFFICIAL NOTICES TO MEMBERS

COMMITTEE MEETING

A MEETING of the Committee was held on Wednesday, June 8, 1921, when there were present:—Brig.-Gen. Sir Capel Holden, K.C.B., F.R.S., in the Chair; Maj.-Gen. Sir Sefton Brancker, K.C.B.; Lieut.-Col. F. K. McClean; Lieut.-Col. Mervyn O'Gorman, C.B.; Group-Capt. C. R. Samson, C.M.G., D.S.O., R.A.F.; Mr. T. O. M. Sopwith; and the Secretary.

Election of Members.—The following New Members were elected:—

Alexander Charles Maurice Anderson.

Capt. George Frank Brady (Royal Warwickshire Regt. and R.A.F.).

Racing Committee.—The reports of the Meetings of the Racing Committee held on April 13 and 27, and May 11 and 31, 1921, were confirmed.

Aerial Derby.—The arrangements for the Aerial Derby to be held at Hendon on July 16, 1921, as submitted by the Racing Committee, were approved.

Seaplane Races at Cowes.—The report of the Racing Committee was confirmed and the Regulations were ordered to be issued. The Races were fixed to be held on August 1 and 2, 1921.

Club Flying Machines.—The arrangements between the Club and the Air Ministry for housing the Club Flying Machines at Waddon Aerodrome, Croydon, were considered and approved.

Jacques Schneider Race.—It was reported that on the closing date for entries, viz., June 1, 1921, no British entries had been received.

Official Timekeepers.—The following were appointed Official Timekeepers for the year 1921:—

A. V. Ebbelwhite, A. G. Reynolds, T. D. Dutton, Maj. Arthur H. Loughborough, and Sir Zachariah Wheatley.

AERIAL DERBY

INTENDING Competitors are reminded that the entries for the Aerial Derby close on July 6, next.

The Race will be held at Hendon on July 16, next, and the following is the Prize List:—

Fastest Time (Winner of the Aerial Derby): Trophy and £400.

Handicap: 1st Prize, Trophy and £200; 2nd Prize, £100; 3rd Prize, £50.

THE COWES SEAPLANE RACES

(Under the Competition Rules of the Royal Aero Club and the Regulations of the Fédération Aéronautique Internationale)

At Cowes, Isle of Wight, on Monday and Tuesday, August 1 and 2, 1921.

Isle of Wight Handicap, August 1, 1921.—Prize: Trophy of the value of £100 (presented by Lieut.-Col. F. K. McClean), and £250 presented by the Royal Aero Club. The course is approximately 80 nautical miles, from a point off Cowes to Ventnor, out and back twice, passing Ryde, Sea View and Foreland.

Solent Handicap, August 2, 1921.—Prize: £250, presented by the Royal Aero Club. The course is approximately 80 nautical miles, over a circuit of 20 nautical miles, situated in the Solent, and four laps of the circuit must be made to complete the course.

The circuit will include a point off Cowes, No Man's Fort, Horse Sand Fort and Spitbank Fort.

The regulations are:—

1. **Qualification of Competitors.**—The Competitions are open to persons of any nationality holding a licence issued by any Aero Club affiliated with the Fédération Aéronautique Internationale.

2. **Organisation.**—The Competitions shall be conducted by the Royal Aero Club under the Competition Rules of the Royal Aero Club and the Regulations of the Fédération Aéronautique Internationale.

3. **Entries.**—The Entry Fee is £5 for each Competition. This fee, together with the Entry Form, must be received by the Royal Aero Club, 3, Clifford Street, London, W.1, not later than July 20, 1921.

4. **Starting and Finishing.**—Competitors will be started on the water at intervals according to the Handicap. The Races will close at a time to be fixed by the Stewards of the Meeting.

5. **The Winner.**—The Winner will be the competitor who, having properly completed the Course, first crosses the finishing line in flight.

6. **Stoppages.**—Alighting, replenishments and repairs are permitted en route.

7. **Postponement.**—The Stewards of the Meeting have the power to postpone from day to day or stop the Races if started, if in their opinion the weather or other conditions warrant such a course.

Entry forms can be obtained upon application to the Royal Aero Club.

RACING COMMITTEE

A Meeting of the Racing Committee was held on April 27, 1921, when there were present: Maj.-Gen. Sir Sefton Brancker, K.C.B., in the Chair; Mr. G. B. Cockburn; Brig.-Gen. Sir Capel Holden, K.C.B., F.R.S.; Mr. N. C. Neill; Group-Capt. C. R. Samson, C.M.G., D.S.O., R.A.F.; and the Secretary.

Maj.-Gen. Sir Sefton Brancker, K.C.B., was appointed Chairman.

The following Aeroplane Races were discussed:—Aerial Derby, Seaplane Races at Cowes, and Jacques Schneider Race.

A Meeting of the Racing Committee was held on May 31, 1921, when there were present: Maj.-Gen. Sir Sefton Brancker, K.C.B., in the Chair; Brig.-Gen. Sir Capel Holden, K.C.B., F.R.S.; Col. F. Lindsay Lloyd, C.M.G., C.B.E.; Mr. N. C. Neill; Group-Capt. C. R. Samson, C.M.G., D.S.O., R.A.F.; and the Secretary.

Aerial Derby.—The general arrangements for the Aerial Derby to be held at Hendon on Saturday, July 16, 1921, were discussed. It was decided to leave the handicapping in the hands of a Committee to be appointed by the Air Ministry.

Seaplane Races at Cowes.—The regulations were considered and approved. It was decided to hold two races on August 1 and 2, 1921, and for each Race the Club would offer a Prize of £250.

In order to get over the difficulty of Seaplane Manufacturers being short of pilots, it was reported that the Air Ministry had granted permission to Service pilots to take part in the Races.

FLYING SERVICES FUND COMMITTEE

A MEETING of the Flying Services Fund Committee was held on Tuesday, May 31, 1921, when there were present: Group-Capt. C. R. Samson, C.M.G., D.S.O., R.A.F., in the Chair; Mr. Chester Fox; and the Secretary.

Applications for Assistance.—Thirty-four applications for assistance were considered, and Grants and Allowances were voted amounting to £438 11s.

THE FLYING SERVICES FUND

(Registered under the War Charities Act, 1916)

Administered by the Royal Aero Club

For the benefit of Officers, Non-Commissioned Officers and Men of the ROYAL AIR FORCE who are incapacitated while on duty, and for the widows and dependants of those who are killed or die from injuries or illness contracted while on duty.

Honorary Treasurer:

The Right Hon. LORD KINNAIRD.

Committee:

H.R.H. THE DUKE OF YORK, K.G. (Chairman).

Lieut.-Col. A. DORE, D.S.O.

Mr. CHESTER FOX.

Squad.-Leader T. O'B. HUBBARD, M.C., R.A.F.

Group-Capt. C. R. SAMSON, C.M.G., D.S.O., R.A.F.

Secretary:

H. E. PERRIN.

Bankers:

Messrs. BARCLAYS BANK, LTD., 4, Pall Mall East, London, S.W. 1.

| Subscriptions | | £ | s. | d. |
|--|---------|--------|----|----|
| Total Subscriptions received to April 18, 1921 | | 17,219 | 3 | 1 |
| Proceeds of an entertainment given by the Rector's and Mr. F. W. P. Matthews' children | | 2 | 0 | 0 |
| Mrs. Petre | | 15 | 0 | 0 |

Total, June 13, 1921 £17,236 3 1

Offices: THE ROYAL AERO CLUB,
3, CLIFFORD STREET, LONDON, W. 1.

H. E. PERRIN, Secretary.

LONDON TERMINAL AERODROME

Monday Evening, June 13

TODAY two new British services to Paris were inaugurated. The Instone Air Line are now sending a daily machine to Paris at 10.30 a.m., and this is due to return each day from Paris at 4 p.m. This is a step in the right direction, but further increases will become necessary to cope with the volume of traffic which is now forthcoming.

Mr. Cogni, of Handley Page, is in the unfortunate position of having to turn passengers away. He tells me, in fact, that the rush just recently has been such that almost more passengers are refused seats than can actually be found accommodation for. This is a very hopeful sign, in its way; but it is also bad business to have to refuse passengers, as they may be lost to air-transport for good.

The great trouble is, of course, the shortage of machines. This is due entirely to a "wait-and-see" Government policy. It is hopeless to expect to deal adequately with traffic this year. Some clear statement from the Air Ministry, as to the plans for next year, is now most urgently needed, in order that fleets of new machines can be ordered and built in time to be in service next spring. If this is not done soon then next year will find us drifting along with the same few out-of-date machines.

Deferred-Rate Goods

TRAFFIC on the Amsterdam service is developing. There are days, now, when there is too big a load for the monoplane, and something has to be left behind. Though this is not good advertisement for "airway" speed, it is gratifying to air enthusiasts, all the same, to find such a healthy demand for aerial transport.

Some scheme of deferred rates for air-borne goods would, no doubt, now be received favourably; and it would certainly tend to even up cargoes. For some mysterious reason there are days when there is a general falling off in the goods traffic, and on such days the machine could then be loaded with deferred-rate cargo. There would, of course, have to be a time-limit, but there is a little doubt that many business houses would welcome some such scheme, and that it would attract new patrons to the airway.

Handley Page Transport are having difficulty in getting their machines off the aerodrome with full loads. On Tuesday, after getting well away, apparently, one of the Paris machines came down in a cornfield, next to the aerodrome, and the passengers had to return on foot to the 'drome before the aeroplane could get out of the field. Then it flew back to the aerodrome, and after some delay got away with its load.

Every endeavour is being made to discover the cause of this trouble. One of the 0-400's has gone to Martlesham to be weighed, while the others are to be weighed at Cricklewood under the supervision of an A.I.D. Inspector. In the meantime, outward bound 0-400's are being flown over to Cricklewood, empty, in order to pick up their passengers and goods there. Incoming machines are still landing at Croydon.

Controller-General's "Special"

BRIG.-GEN. FESTING occupied a front seat, beside the pilot, Mr. Powell, on the Vickers "Vimy" when she flew to Paris on Wednesday.

The new D.H. "18a" made her first continental trip on the same day, carrying as passengers General and Lady Sykes, who had engaged the machine as a "special." General Sykes returned on the "18a" on the following day.

There have been rumours at the aerodrome of a new company, formed to run air services to resorts on the French coast. The idea was to purchase the D.H. 16's from the liquidator of Aircraft Transport and Travel, and use these four-seater machines to fly holiday-makers to Le Touquet, Dieppe, and Deauville.

It was hoped that the Casino authorities at these places would grant a subsidy for each passenger taken over; but this was not forthcoming, and the scheme is, I understand, now in abeyance. Perhaps, if the promoters had suggested that the Casinos should pay for a free air-passage home to those who had lost all their money at the tables, and were therefore of no further use and would be better out of the way, a more favourable reply might have been obtained.

The Grands Express are developing rapidly. New machines have made their appearance at Croydon—evidently some of those purchased to make up the fleet of twelve which a French company must possess in order to qualify for the subsidy.

These "Goliaths" have made twelve flights on the London-Paris "airway" during the past week, and, taking into con-

sideration goods as well as passengers, practically full loads have been carried.

The "Liner" of the Air

AIRSHIP "R.36" flew over the aerodrome on Saturday morning between 1 and 2 a.m., and was plainly visible against a clear sky. She made a most impressive sight, with all her navigation lights switched on, as she circled slowly round the 'drome at a low altitude. The wireless operators at Croydon were in touch with her throughout the whole of her 30 hours' endurance flight, although she went as far afield as Land's End.

The mooring-mast is now between 80 and 100 ft. high, and the first set of wire guys is in place. Work on the mast is being pushed forward rapidly, and the constructors were working all day on Sunday. The various huts for housing the pumping motors are now being built, and the builders say they will have no difficulty in completing the work in the contract time—which has, by the way, been extended to July 10.

A large iron tank has appeared mysteriously in a corner of the aerodrome, near the Anglo-American Company's petrol pump. Nobody seems to know anything about it, but it is presumed that this is the first sign of the bulk-storage plant for Shell-Mex.

Aerodrome Post-Office

MR. SHAW, of Basil S. Foster, Ltd., tells me that one of the offices in their building is shortly to be used as a post office, where all the usual postal facilities will be available.

Most of the air traffic firms now provide a passengers' waiting-room, where tickets are examined, and where, theoretically, air travellers are supposed to wait for their machines. Very few passengers stay in them, however. They generally find their way to the Trust House.

The other day a party of nervous passengers, including several ladies, who had discovered that the Trust House bar was not in America, were expressing indignation at some pictures exhibited in one of the waiting-rooms. From their remarks I gathered that these pictures, representing aeroplanes falling in flames, were hardly calculated to inspire confidence in passengers who had evidently been screwing up their courage before embarking on a flight.

Eggs Laid in the Air

CAPT. LEVERTON, of the K.L.M., tells me of an unusual event which occurred in one of their monoplanes while it was flying between London and Amsterdam. Just before the machine was due to leave Croydon, a car drove up containing two crates of live chickens, which the driver of the car wished to send to Amsterdam.

The cargo of the machine had to be re-arranged to accommodate the crates, and the machine was delayed for a few minutes. When the chickens were taken out of the aeroplane at Amsterdam, it was found that two eggs had been laid during their aerial journey!

Joy-riding was quite brisk during the week-end, there being more patrons than for some weeks past. Captain Muir was taking up passengers from Norwood Fair on Wednesday, the promoters of this Fair making quite a feature of aerial joy-riding. Several organisers of similar events have since approached Captain Muir, suggesting that he should run joy-rides in connection with their particular festivities.

The Sports Club

ENTHUSIASTS are now working hard on the sports ground. The cricket pitch is rather bumpy, and drastic measures—in which hose-pipes and steam-rollers figure—are being employed to get it level. There is even talk of digging it up, and of using for this season a matting wicket. Subscriptions for the Club are coming in well, and part of the equipment has already been purchased.

The bottom end of the aerodrome, near the trams, which was used during the War as an allotment, is now to revert to this use. If anyone connected with the aerodrome has sufficient energy to dig after his day's work, he can have one of these allotments for the asking.

My remarks on wireless communication last week have caused some little heart-burning. They were evidently misunderstood. The staff at the aerodrome did everything possible. They were, in fact, working up to 10 p.m., or the day when there was interruption from "atmospherics," trying to get news over the wireless. Their personal endeavours were never doubted. What was questioned was the state of affairs which does not allow them to make an official use of the telephone and telegraph systems when the wireless is jammed.

SAFETY AND ECONOMY ON THE LONDON-PARIS AIR SERVICE

Report of the R.Ae.S. Committee

EARLY this year the Royal Aeronautical Society appointed a committee "to discuss what is required to ensure the safe and economical working of an aeroplane carrying mails and passengers between London and Paris." The report of this committee has now been published. Regarding the preliminaries which led to the formation of this committee we quote from the foreword: "Certain members of the Society, fearing any stagnation in the development of design of aeroplanes specifically for commercial purposes, thought it would be desirable that designers of both aeroplanes and engines should be enabled to hear a summary of views upon the actual running of commercial services, notably on the impediments to providing a service which was safe and reliable, but bearing in mind the fact that such a service could not survive without showing a prospect of financial return on the investment. The committee has had to restrain itself from entering into the realm of invention and has kept to actualities rather than to proposals for untried design. It has concentrated on ends rather than means."

It had at first been intended to discuss, in addition to a service like the London-Paris, one of 500 miles; but the latter was abandoned, partly because it would have entailed dealing with a vast number of subjects, such as meteorological and geographical considerations, and partly because it would have delayed the report on the London-Paris service. From what can be gathered from the report, no great harm would have been done if its issue had been delayed, as it does not appear to contain anything which is not perfectly obvious to anyone with a fair knowledge of aircraft construction, operation and design.

The conclusions arrived at and the suggestions for improvement fall under four main heads: A, Installation work on engines; B, engine design; C, aeroplane design; and D, general, weather reporting, etc. It is stated that these four heads represent, roughly, the order of importance. As the chief source of trouble the installation of aero engines is an easy first, as has been proved over and over again. Most engines are very reliable in themselves, and what gives trouble is usually some such auxiliary as ignition or cooling system, petrol or oil system, etc. The committee recommends, as regards the petrol system, that the use of rubber connections be discouraged with a view to eventual abolition. Why it has confined itself to suggest "discouraging" rubber connections we fail to see. They are always giving trouble either by leaking or by the fuel eating away small particles which clog up the filters and choke the fuel supply. Their abolition should be immediate. If it has been found possible to use soft steel pipes on the L.G.O.C. 'buses, with all the pounding they get, there does not appear any reason why they should not be equally effective on aircraft. One can therefore thoroughly endorse the recommendation of the committee to develop the use of soft steel pipes for both petrol and oil systems. As regards the petrol system itself the committee has arrived at the conclusion that the objection to pressure systems is "appreciably an aftermath of war conditions, when puncture by bullet through a pipe or tank had to be guarded against." It therefore recommends—owing apparently to the opinion that the pressure system may be employed to decrease the danger of fire by placing the tanks on the wings—that "while the gravity feed and pump systems are not objected to, the pressure system should be permitted to develop by release from prohibition." One is duly indebted to the committee for not objecting to the simplest of all possible petrol systems—that of direct gravity feed, but it is a little difficult to see why placing the tanks on the wings should necessarily entail a pressure system. If the tanks are placed on the top instead of on the bottom plane of a biplane the safety from fire is probably as great, and good old gravity will do all that is necessary to get the petrol to the engine. Why, then, recommend the extra complications of pumps. It is true that with the tanks placed on the bottom plane filling by hand is simplified, but one hopes that this old-fashioned practice is to all purposes dead and done with, at any rate on the London-Paris service, which is the one under review by the committee. By the aid of the underground storage tank now installed at Waddon it can make but little difference whether the tanks are on the top or on the bottom plane.

As regards the question of ignition systems, few will disagree with the committee that all engines should have duplicate ignition and that magnetos should be readily removable and easily replaced correctly. Also, we would add, that they

should not be placed in a position where they get smothered in oil, as is too frequently the case.

The committee also has a word to say about engine cowls, which, it recommends, "should be completely dismountable or replaceable in three or four minutes without the use of tools, and in such a way as to leave the engine and accessories completely clear." It is a source of surprise to many why engine cowls have been allowed to remain fastened by long skewers which, although they do not require special tools, do presuppose a manipulatory dexterity rarely found except in *salles d'armes*. The difficulty of getting at engines and their accessories is not, however, a matter of cowl only. Frequently the main framework of the nose is so arranged that it is only with the greatest difficulty that certain parts of the engine can be reached.

Under Head B, engine design, the committee concludes that no particular type can be said to give promise of any very great advantage over others. It will probably come as a surprise to many to find that the committee is of the opinion that the "wasteful practice of running an engine for a quarter of an hour or 20 minutes before opening up to full throttle was largely habit, and the danger resulting from opening up with the engine cold related chiefly to the oil gauges, an objection which could be overcome by suitable instrument devices."

On the subject of repairs, or rather removability for repairs, it appears that two communications were sent to the committee: one was by Capt. F. S. Barnwell, Chief Designer of the Bristol Aeroplane Company, and seems to have been in the nature of a plea for standardising the provision made on the engine for attachment to the *fuselage*. The committee appears to have come to the conclusion that the time was not yet for such standardisation. While we are fully aware of the hampering influence which too early standardisation may exert on the development of design, we cannot quite agree with the committee that a matter like the "feet" of aero engines cannot be standardised without any great detriment to engine design. We have had no opportunity of examining Capt. Barnwell's communication, but, frankly, we cannot see why every engine should differ from other makes of the *same type* just sufficient to prevent one from fitting the engine-bearers of another. Surely nobody would be prepared to assert that it would cramp the poor engine-designer's style appreciably if he had to design his "feet" to certain dimensions, if, at the same time, he were free to turn his genius loose on all the rest of the engine? To us it seems that standardisation of, for the sake of argument, three or four types would be eminently feasible, so that designers of vertical, vee, and "broad arrow" types would have certain specifications to which to conform. In the matter of radial engines it might conceivably be a little more difficult to standardise, although two standards might be feasible, all engines below a certain power to conform to the one and those above that power to another. The advantage for commercial work of being able to substitute one engine for another without having to re-design the engine-mounting would be very great indeed.

Colonel Fell suggested that the fore-part of the aeroplane should be made detachable as a unit, and, apparently, that such units should be capable of fitting any machine (within reason). The committee foresees difficulties in this respect, but think that much may be done in this direction.

As regards single-*versus* twin-engined machines, the committee appears to be of the opinion that for a service like the London-Paris the single-engined type is preferable, although it envisages a twin-engined type with propeller shafts concentric but each driving its own airscrew.

Several suggestions were made on the subject of aeroplane design. For instance, it was recommended that "control cables should not pass through fairleads or over pulleys; or, if so used, the part so passing should be separately renewable and be fitted with an adjuster." The committee also recommends in general that "the solution of the problem of retaining control for alighting at or below the stalling speed calls for urgent study and research, both in the laboratory and on the full scale."

We are glad to see that the committee has strong views on two points which have not, it is to be feared, received sufficient attention in the past. It recommends that "powers should be taken to secure by regulation or inspection the provision of a proper field of view for the pilot." On the vital subject of emergency exits the committee recommends that "the provision of emergency exits for rapidly discharging

passengers in the event of a crash, in whatever position the aeroplane may be, and the notification of such means of egress, should be made compulsory."

The committee was composed as follows:—

Col. M. O'GORMAN, C.B., D.Sc., F.R.Ae.S. (Chairman); Lieut.-Col. W. A. BRISTOW, M.I.E.E., M.I.Aut.E., F.R.Ae.S., Messrs. Ogilvie and Partners (Insurance); Lieut.-Col. L. F. R. FELL, D.S.O., O.B.E., A.F.R.Ae.S., late Royal Air Force (Engine Design); Capt. G. DE HAVILLAND, O.B.E., A.F.C., F.R.Ae.S., De Havilland Aircraft Co. (Aeroplane Design); Capt. G. T. R. HILL, M.C., B.Sc., A.F.R.Ae.S., late of Messrs. Handley Page, Ltd. (Piloting); Wing-Com. J. H. A. LANDON, D.S.O., O.B.E., Royal Air Force (Engine Installation); Sq.-Leader G. H. NORMAN, Royal Air Force (Testing); Mr. H. RICARDO, A.M.Inst.C.E., M.I.Aut.E., Messrs. Ricardo and Co., Engineers, Ltd. (Engine Research); Mr. A. J. ROWLEDGE, A.M.I.Mech.E., M.I.Aut.E., F.R.Ae.S., Messrs. Rolls-Royce, Ltd. (Engine Design); Col. F. SEARLE, late of Aircraft Transport and Travel, Ltd. (Business Management); Mr. R. McKINNON WOOD, A.M.Inst.C.E., F.R.Ae.S., Royal Aircraft Establishment (Aeroplane Design); Lieut.-Col. W. Lockwood MARSH (Secretary).

NOTICES TO AIRMEN

Croydon and Lympe: Obstruction Lights

FOR purposes of economy it has been decided that, until further notice, no obstruction lights will be exhibited at Croydon or Lympe aerodromes unless due notice that a machine may arrive between sunset and sunrise has been given to the Civil Aviation Traffic Officer at the aerodrome concerned.

(No. 47 of 1921.)

Henlow Aerodrome: Obstructions

PILOTS of aircraft are warned that an athletic ground has been constructed at the south-eastern corner of Henlow Aerodrome, Bedfordshire (52° 1' 0" N., 0° 18' 0" W.). The boundaries of this athletic ground will be marked by red flags.

(No. 48 of 1921.)

Hendon Aerodrome: Temporary Obstruction

IN connection with the forthcoming R.A.F. Aerial Pageant, a model village is being erected on the east side of Hendon Aerodrome, approximately opposite to the bridge under the Midland Railway.

This village will be an obstruction on the aerodrome until after July 2, 1921, when the Pageant takes place.

(No. 49 of 1921.)

Felixstowe: Salvage Operations Completed

1. NOTICE to Airmen No. 26 of 1921 is cancelled. The salvage operations in the fairway of Harwich Harbour have now been completed, the wreck of the S.S. *Marsa* (1917) having been dispersed, and the wreck-marking buoy withdrawn.

(No. 50 of 1921.)

ROYAL AIR FORCE MEMORIAL FUND

A MEETING of the Executive Committee of the Fund was held on the 2nd instant, Lord Hugh Cecil in the Chair. The members of the Committee present were:—Lady Leighton, Dame Helen Gwynne-Vaughan, Mrs. Barrington-Kennett, Air Vice-Marshal Sir John Salmon, Sir Charles McLeod, Air-Commodore H. R. M. Brooke-Popham, and Mr. H. E. Perrin.

A list of subscriptions received since the last meeting on

May 12, 1921, amounting to £408 12s. 9d., together with a list of grants made since the same date, amounting to £44 16s. 8d., were submitted.

A grant in aid of the initial expenses of the R.A.F. Pageant to be held at Hendon on Saturday, July 2, was authorised.

The Boys' Home at Vanbrugh Castle it is hoped will be open in the early part of August next, and arrangements to that end are being rapidly carried out.

Mentioned in Despatches

It was announced in a Supplement to the *London Gazette*, dated June 10, that the names of the under-mentioned officers, non-commissioned officers and men have been brought to notice for distinguished service during the operations in Waziristan, 1919-20, by General Sir C. C. Monro, G.C.B., G.C.S.I., G.C.M.G., in the despatch dated August 1, 1920 (published in the Supplement of the *London Gazette* dated December 8, 1920):—

Royal Air Force.

Observer Officer Clement Graham Boothroyd, D.F.C., 20th Squadron. Flight Lieut. Claude Russell Cox, A.F.C., 27th Squadron. Observer Officer Eric Charles Delamain, M.C., 27th Squadron. Flight Lieut. Herbert Phillip Montague Kesterton, M.C., 27th Squadron. Wing Commander Frederick Frank Minchin, D.S.O., M.C. Wing Commander William Gore Sutherland Mitchell, D.S.O., M.C. Flight Lieut. John Canaan Russell, D.S.O., 20th Squadron.

Headquarters, 3rd Wing.—80749 Sergeant L. B. Goss. 18473 Sergeant S. Greenwood.

No. 20 Squadron.—218844 Serjeant W. Brownridge. 107500 Acting Corp. W. A. Dowle. 253977 Aircraftman T. Gardiner. 6606 Flight Sergeant F. G. Hammond. 401704 Flight Sergeant L. F. Kingston. 67503 Corp. G. Southcott. 55149 Flight Serjeant N. Unett.

No. 27 Squadron.—14686 Flight Sergeant J. V. Griffiths. 84069 Aircraftman J. E. Luckhurst.

No. 60 Squadron.—96294 Leading Aircraftman F. C. Bayford. 247939 Leading Aircraftman W. J. Kelly.

A Really Useful Danish Air Service

FROM Copenhagen it is reported that Dansk Aeronautisk Selskab has established an aerodrome on the island of Fanø, partly for the purpose of joy-riding and, what is infinitely more important, for the transport of passengers from Esbjerg to Copenhagen. Esbjerg is the town on the west coast of Jutland which is the port of arrival and departure of the direct steamer service between this country (Harwich) and Denmark, and, knowing the Danish train services, the new air line should be due to make a small fortune during the next few months. By train—in the present condition of peat-fired locomotives—the journey between Esbjerg and Copenhagen takes about 12

hours, while by air it could easily be covered in an hour and a quarter to an hour and a half. Thus the journey from London to Copenhagen, or *vice versa*, will be shortened by about ten hours, not counting the discomfort of travelling in the overcrowded Danish trains. We understand that Captain Cecil Faber, son of the late Danish Consul-General in London, and who served in the British air force during the War, is to be the head of the Fanø end of the undertaking. We wish him and his enterprise every success, hoping that before long the journey between Harwich and Esbjerg will be made by seaplane, when the trip to Copenhagen would be shortened by approximately 24 hours.

New York Air Police Force

LONDON as compared with New York lags well behind in enlisting aviation for practical work. In New York, with the exception of one inspector and one patrol man, the Air Police Force is entirely a voluntary organisation, and consists of one hundred experienced aviators and mechanics, all of commissioned rank. The force was formed in November, 1918, under the command of Colonel Jefferson de Mont Thompson, of the Aero Club of New York. The titular head of the aerial police is Rodman Wanamaker, Jr., the active head being Inspector Dwyer.

The activities of the Force are stated to be in connection with directing the work of firemen in cases of fire, detection of river thieves and smugglers, heading-off criminals, and carrying photographs and finger-print records of criminals when such records are needed in haste.

The police squadron has three bases:—Dyker Beach Park, Brooklyn; 82nd Street, North River; 130th Street and Hudson River, and the use of U.S. Navy aerodrome at Fort Hamilton, Brooklyn.

In addition, a school of aviation, under the command of Capt. Brennan, is maintained at 156, Greenwich Street, New York. Instruction is given free on five evenings a week, in wireless, rigging, engine fitting and flying. Each student must pass the physical examination prescribed for enlistment in the U.S. Army, and, on graduation, must enrol in the Aviation Corps. The school has two seaplanes lent by the U.S. Navy for practical instruction, at Port Washington, Long Island.

ROYAL AERO CLUB SEAPLANE RACES

PARTICULARS of the seaplane races at Cowes, Isle of Wight, have been now issued by the Royal Aero Club. They take place on Monday and Tuesday, August 1 and 2, 1921. On the first day the Isle of Wight Handicap will be flown. For this a trophy of the value of £100 has been presented by Lieut.-Col. F. K. McClean, and in addition £250 has been presented by the Royal Aero Club.

The course for the seaplane race is approximately 80 nautical miles (about 92 land miles) extending, from a

point off Cowes to Ventnor, out and back twice, passing Ryde, Sea View and Foreland.

On August 2 the Solent Handicap takes place, for which a prize of £250 has been presented by the Royal Aero Club.

The course is approximately 80 nautical miles, over a circuit of 20 nautical miles, situated in the Solent, and four laps of the circuit must be made to complete the course.

The circuit will include a point off Cowes, No Man's Fort, Horse Sand Fort and Spitbank Fort.



For France in the Aerial Derby

SADI LECOINTE is now a certain starter in the Derby next month, piloting a 300 Nieuport, and de Romanet will be in charge of a 300 Spad. It has been stated that Lecoinge will have a 450 Napier Lion for his mount, but this is unlikely as he is reserving this for the Coupe des Nations.

Aé. C. de France Grand Prix

WITH the exception of M. Jean Bernard, who is apparently an absentee from the final list of competitors in the last period this year for this contest, the competitors given in FLIGHT last week are now confirmed. In addition, M. Drouhin and M. Landry-Coupet are in the list of entrants.

The Schneider Cup

No British entries have materialised for this event, and the only French competitor proposing to make an attempt to capture the trophy from Italy is Sadi Lecoinge, on a Nieuport Delage. The pilots who will represent Italy in defending the Cup have not so far been officially notified.

A South American Record

AN Argentine pilot, Senor Eduardo Olivero, is reported to have broken the height record for South America, with a ceiling of 8,000 metres (26,200 ft.).

Further Tests on the H.P. Wing

WHEN the first full-size machine fitted with the Handley Page slotted wing was tested some months ago, the slots were, it may be remembered, not provided with operating gear. This meant that the top speed of the machine was spoilt, although showing the great reduction in landing speed obtainable with the slots. Experiments are now being conducted at Cricklewood with various forms of slot-operating gear in order to decide which form to employ on the new monoplane that is now being built. By this policy it may be expected that when the new monoplane is completed and in flying trim she will be far less of an experiment than would have been the case had actual tests not been made upon different forms of slot gear. The tests are being carried out with a D.H. 9 fuselage fitted as a monoplane, and we understand that, although difficulties have been encountered, there is every reason to expect that a satisfactory gear will be evolved in the near future.

The Activities of R.36

So successful were the services of R.33 in connection with the control of the Derby traffic that similar help was sought from the Air Ministry for sorting out Ascot traffic. At the request of the Chief Commissioner of Police, the Air Ministry therefore arranged for R.36 (G.F.A.A.F.) to assist. Two official observers, representing Scotland Yard, were carried—Mr. Elliot and Superintendent Basson—and amongst those on board was a representative of FLIGHT. R.36 arrived off a point between Brentford and Staines about 10 a.m. on Tuesday, and the following routes were watched:—

1. London-Brentford-Hounslow-Staines-Egham-Ascot.
2. London-Kew Bridge-Twickenham-Walton-Weybridge-Chobham-Ascot.
3. Hounslow-Walton-Weybridge.
4. Hounslow-Slough-Windsor-Ascot.
5. Egham-Windsor-Ascot.

A wireless station for dealing with traffic control messages had been erected at Staines. The airship kept outside a three-mile radius of Ascot Racecourse, and did not descend below 2,000 feet. The same precautions to avoid alarming the horses taking part in the races as were exercised when R.33 flew on Derby Day were observed on this occasion.

During last week-end, R.36 made an endurance and wireless navigation test-flight, by way of a preliminary to her proposed cruise over the Continent with the Dominion Prime Ministers as passengers.

Ascending from Pulham at 10.7 p.m. on June 10, she was heard and seen near the outskirts of London soon after midnight. At 2 a.m. on Saturday officials at the London Terminal Aerodrome at Croydon had a fine view of her. She

was then flying rather low, with a brilliant bow light shining and another navigation light at her tail; while the cabin, illuminated electrically from within, showed a long row of bright lights like the portholes of a ship.

Communicating constantly by wireless with various land stations, and carrying out direction-finding and other tests, the R.36 travelled during one of her evolutions as far as Land's End, passing out for a time over the sea. It was not until early on Sunday morning that she reappeared at Pulham and was berthed again, having been in the air, cruising at various heights and speeds, for approximately 30 hours.

The "Nordstern" Goes to France

AT last the Germans have got a move on in regard to delivering the small dirigible "Nordstern" under the terms of the Peace Treaty, her sister ship "Bodensee" having been assigned to Italy. The "Nordstern" was due to arrive from Friedrichshafen at Saint Cyr, where she will be housed in the Zodiac hangar, on June 10 or 11. Weather conditions, however, caused "delivery" to be made on June 13. She was navigated by a German crew, whilst on behalf of France Captains Paquignon, Leroy, and another officer were on board during the journey to France. Both these little commercial ships have done good work in Germany up to such time as the Treaty terms were determined, a regular service having been organised between Friedrichshafen and Berlin-Staaken, with a stop at Munich. The journey there and back was timed for 14 hours and was carried out 100 times in 98 days. It is proposed by M. Laurent-Eynac to reserve the "Nordstern" for the Marseille-Algiers air service, which is now in course of organisation.

The "Nordstern" differs from the "Bodensee" but slightly, having a capacity of 777,000 cubic ft. and a length of 382 ft. Her maximum diameter is 60 ft., and the overall height just within 80 ft. The hull is divided up into 13 gas compartments. There are in all four cars, comprising one large one forward, forming the main control station and the cabin for the passengers; two wing cars amidships, each containing a 280 h.p. Maybach; and at the extreme rear a single car containing two 280 h.p. Maybachs. The main cabin accommodates 40 passengers, with 1,100 lbs. of luggage—this being in addition to the crew of 16. She has a speed of about 86 m.p.h., and an endurance of 25 hours.

Another Zeppelin Destroyed

FROM Milan it is announced that last week one of the two German Zeppelins which Italy lately received has been destroyed, with its hangar, during a gale at Ciampino, near Rome. This large airship, re-christened "Ausonia," was a valuable acquisition to the Italian airfleet, whose craft number half a dozen. No lives were lost.

A West Indian Aviation Committee

THE Colonial Office and the Air Ministry have, we learn from *The Times*, given their sanction and support to the formation of the West Indian Aviation Committee, which is now about to hold its first meeting in London. The composition of this body is as follows:—

Lieut.-Col. Ivan B. Davson, late R.A.F., late Director of Foreign Aircraft Services, Aircraft Production Department, member of the Executive Council of the Air League of the British Empire, member of the Executive of the West India Committee.

Mr. R. Rutherford, Chairman of the West India Committee. Capt. G. Hudson Lyall, late R.A.F. (late Private Secretary to Maj.-Gen. Sir F. H. Sykes), member of the Council of the Air League of the British Empire, West Indian merchant.

Mr. Algernon Aspinall, Secretary of the West India Committee.

Mr. A. E. Chorlton, late Director of Aero-Engines Aircraft Production Department.

Brig.-Gen. J. G. Weir, late R.A.F., late Controller of the Technical Department of the Air Ministry.

Mr. Douglas Gordon, honorary secretary.

AIRISMS

FROM THE FOUR WINDS

IN accepting the office of Minister for Education for North Ireland, the Marquess of Londonderry, as a natural consequence, has resigned the Under-Secretaryship of State for Air. For the time, therefore, at least, the Air must push along without Lord Londonderry, who received warm thanks from the Premier for the valuable work in aid of aviation put in by the late Under-Secretary.

EAST HERTS election—following P.B.'s resignation—is now confined to a duel between Rear-Admiral Murray Sueter, who stands for Anti-Waste, and Sir Hildred Carlile, the official candidate. An additional point, from our own point of view, in favour of the Anti-Waste representative is that Admiral Sueter should be a valuable asset to the House in all matters Aviatric, which may come up for discussion. So we wish him well in today's (Thursday) count.

AEROPLANES have been summoned to the rescue against the attempt of clouds of locusts to steal a march into the more northern latitudes than their customary haunts of destruction—to wit the Crau district, N.W. of Marseilles in Southern France. Whether they be locusts or grasshoppers, as they have been variously dubbed, their unwelcome attentions have already, it is claimed, devastated some hundred thousand acres. Where the aeroplane comes in is that the pilot is able to locate their breeding grounds and then proceed to scatter poisoned bran or sawdust by way of air antidote.

Pilots now daily scour the whole of the Crau plain, flying extremely low. When they locate a breeding-ground or "nest" of locusts, directions are immediately telephoned to the anti-locust headquarters at Miramas. If there is long grass near, petrol is poured on it and it is set alight. Other-

wise the infested area is strewn with the sawdust soaked in arsenic. This kills the locusts at once, and also any eggs that are unhatched.

We are just wondering that no champion against their destruction has arisen with the plea that by kindness they can be taught to eat biscuits instead of destroying crops.

ANOTHER incentive likely to popularise air-travelling was announced by Viscountess Curzon the other day in her opening speech for the second day of the Y.W.C.A. Worldwide Produce Market, at Lansdowne House, when she mentioned that "One can be dropped from an aeroplane in almost any colony, in any part of the world, and be accepted by the Young Women's Christian Association."

We don't doubt it.

HUMANS during the War made a common practice of descending from aircraft by parachute behind the enemy's lines, with astonishing results occasionally for both sides. Now "Bing," a lovable specimen of the friend of man has, in the United States, been pressed into the air service by way of a nucleus for a regular regiment of similarly trained fox-terriers, the idea being that the doggies shall descend by parachute from aeroplanes, at spots where it may be difficult for a plane to land, and thus carry, systematically, messages. "Bing," it is related, made a descent from 1,500 ft. at Chanute Field, on May 19, under these conditions. After landing, "he worked himself free from his parachute harness, overcame another dog set to prevent his onward journey, and ran to headquarters with a message carried in a pouch suspended from his neck." "Bing" was dropped off a wing of the aeroplane by Sergt. A. G. Shoemaker; which all sounds very clever, but we are just wondering what the doggie thinks about it.

IN PARLIAMENT

British Air Lines Agreement

MR. RAPER asked the Secretary of State for Air if he will publish, as a White Paper, the Agreement entered into between the Air Ministry and the different British air lines?

Capt. Guest: I gave a general outline of the Agreement to the Committee on the Air Estimates on April 21. Although the Cross-Channel Aeroplane Service is in operation, some minor points in relation to the legal Agreement are even now not finally settled, but, as soon as the document is signed, copies of it will be laid before the House.

Air-Worthiness Certificates

MR. RAPER, on June 8, asked the Secretary of State for Air whether the Aeronautical Inspection Department is at liberty to issue air-worthiness certificates for machines built and owned abroad if the owners of those machines desire a British certificate in addition to a certificate from their own country?

Capt. Guest: Certificates of air-worthiness are not issued by the Aeronautical Inspection Department, but that Department is responsible for ascertaining the manner in which certain of the conditions of issue are carried out by the owner or constructor, and making recommendations thereon to the Civil Aviation Department, which is responsible for the issue of the certificates. A foreign aircraft owner is not debarred by our Regulations from obtaining a British certificate of air-worthiness for his aircraft. The conditions upon which such certificates are issued, however, include certain requirements in regard to supervision during construction, which could not be fulfilled in the case of aircraft constructed abroad.

Mr. Raper: Would it not be a great advantage, for this country at any rate,

if we could induce the foreign aeroplane people to accept our certificate as a standard of quality, in the same way in which they take a Lloyd's certificate for shipping?

Capt. Guest: Yes, sir; that point is fully appreciated, but the difficulty of foreign manufacturers obtaining a certificate in this country is clear, owing to the fact that the machine would have to be inspected during several stages of its construction.

Sir A. S. Bunn: Are foreign machines allowed to carry British passengers without being inspected by the British authorities?

Capt. Guest: I think that in this stage the responsibility in that case must rest with the passenger who selects the service he prefers.

Distinguished Flying Cross

CAPT. W. BENN, on June 10, asked the Secretary of State for Air whether he has power to recommend the posthumous award of a Distinguished Flying Cross; whether he has considered the circumstances in which Lieut. Douglas Blaxland Thompson, who was killed in action, was awarded this decoration; and whether he will recommend the presentation of this decoration to this gallant officer's next-of-kin?

Capt. Guest: The answer to the first part of the question is that the Air Ministry has no power to recommend the posthumous award of any decoration except the Victoria Cross. With regard to the second part, no award was made in the case of Lieut. Thompson, nor can any recommendation by his commanding officer be traced. The practice which is the natural corollary of the answer to the first part of the question is, that if an officer is recommended for the award of a decoration and is afterwards killed, the decoration, if granted, is presented to his next-of-kin. If, however, he is killed before any recommendation has been made, nothing further can be done.

Empire Linking-Up Through the Air

SPEAKING last week at the Fishmongers' Company's dinner, Sir Frederick Sykes, Controller-General of Civil Aviation, very concisely summarised his views upon the future status of air communications and their influence upon the firm linking-up of the world-scattered units of the British Empire. Sir Frederick again stated that they were trying to place aviation on a commercial footing, because it would be a tremendous step forward in the improvement of inter-communication, especially within the Empire. They also believed that air supremacy would be obtained not by building up military air fleets at a large unproductive expenditure, but by expanding trade, facilitating travel, and harvesting profits from the air. They hoped that commercial aviation would play a similar part in the country's prosperity, as the mercantile marine had done heretofore. "In the future development of civil aviation," said Sir Frederick, "we look for the assistance of the Dominions, untrammelled as they are

by the spirit of conservatism, which is sometimes apt to make progress slow in this country. The strength of the British Empire depends upon good communications, since there is danger that decisions of Imperial importance may be forced upon its Government without sufficient time to obtain the requisite knowledge or to consult with each other. Telegraphy has done much to bridge the gulf, but neither it nor steam can compensate for personal contact between individuals and the most rapid conveyance of the written thought. Air transport, careless whether the route be over land or water and unhampered by foreign frontiers, gives the Empire precisely those essential powers of direct, supple, and speedy inter-communication which ship and rail have already shown us to be vital."

Sir Frederick hopes to evolve and initiate very shortly some practical issue to his Imperial Air-plans, which he is placing before the Prime Ministers of the Empire at their meeting in Conference.

PERSONALS

Married

Maj. O. T. BOYD, O.B.E., M.C., A.F.C., son of the late Alfred B. P. Boyd, of Buenos Aires, and of Mrs. BOYD, High Beech, Haslemere, was married on May 26, at St. Peter's, Cranley Gardens, to INA MARJORIE, eldest daughter of Mr. and Mrs. HARRY TUDOR, of Upwood Park House, Caterham, and Buenos Aires.

LAWRENCE MARTIN WHITTINGTON (late R.N.A.S.), son of T. D. Whittington, of Poulton-le-Fylde, was married on June 4, at Netley Church, to GLADYS, only child of GEORGE and L. E. VALE, of Caversham.

To be Married

A marriage has been arranged, and will shortly take place, between Squadron-Leader T. G. HETHERINGTON, C.B.E., R.A.F. (late 18th Royal Hussars), younger son of Thomas

Hetherington, J.P., and Mrs. Hetherington, of Abberton Manor, Colchester, and CLEMENTINE, elder daughter of the late THOMAS DUNDAS BARTOLUCCI, of Cantiano, Italy, and niece of the Dowager-Marchioness of Tweeddale and Lady Cooper Key.

The marriage of Capt. LESSEL F. HUTCHEON, A.F.C., late R.F.C. and R.A.F., son of Mr. W. Hutcheon, and Mrs. Hutcheon, M.B.E., J.P., of 113, Pepys Road, Wimbledon, and DORIS VERA, daughter of Mr. and Mrs. F. CARRODUS, of 1, Clifton Road, Wimbledon Common, will take place at St. Mary's Church, Wimbledon, on Saturday, June 25, at 2.30 p.m.

The marriage arranged between Flight-Lieut. ERIC DIGBY JOHNSON, A.F.C., R.A.F., and MARJORIE, daughter of Mr. and Mrs. HAROLD BEECHING, of Tunbridge Wells, will take place on July 16 at St. Mary Abbots Church, Kensington.



The Progress of Civil Aviation. Half-Yearly Report of the Controller-General of C.A.

JUST as we are going to press we have received a copy of the half-yearly report of the C.G.C.A. on the progress of civil aviation. Owing to lack of time it is impossible to refer to the report in detail in this issue, and we must confine ourselves to a brief reference, hoping to return to the subject in more detail at a future date. The report covers the period from October 1, 1920, to March 31, 1921, and is arranged in conformity with the general structure of previous reports. Part I includes information regarding civil aviation in Great Britain and the Empire; and Part II describes the progress made in foreign countries. Two appendices are added—Appendix I showing in tabular form the principal scheduled air services which, according to the latest information available, are at present in operation, or are advertised to commence operation in the near future; and Appendix II showing as far as they are ascertainable the customs tariffs on aircraft material imported into various countries.

The figures relating to accidents are most encouraging, and show that, although accidents still do occur—it would be futile to deny it—they form a very small percentage. For instance, during the period May, 1919–March, 1921 (23 months), 33,200 machine miles were flown for each accident occurring; 1,333 machine flights were made for each accident, and 426 machine hours flown for each accident. Only 0.10 passenger was killed for each 1,000 carried (or, for those who object to fractional passengers, one was killed for every 10,000 passengers). This is a record which augurs well for the future safety of flying, when routes become still better organised than they are now, and when really commercial machines are used exclusively. It should be borne in mind that these figures relate to a great extent to a period when converted War-type machines were used, and that even now the number of truly commercial machines employed is relatively small.

Fortuna is Fortunate

OWING to the serious railway accident which occurred in Spain on Sunday between Madrid and Toledo, the renowned Spanish bullfighter Fortuna found himself unable to reach Algeciras by rail to keep an important engagement. He therefore arranged to make the trip (a distance of 300 miles), by air, and on a "Bristol" Tourer, piloted by Major de Havilland, a record flight was made. The enterprise of the famous bullfighter aroused great enthusiasm, and the flight added one more to the list of notable performances of "Bristol" machines in Spain.

France-Morocco Air Mail Service—Changes

THE Postmaster-General announces that the Air Mail for Morocco (Service No. 5 in the Post Office Air Mail Leaflet), now leaves Toulouse at 10.30 a.m. on Tuesdays, Wednesdays, Fridays and Sundays. The latest time of posting at the General Post Office, London, is 6.30 a.m. (6.0 a.m. for printed papers), on Mondays, Tuesdays, Thursdays, and Saturdays.

Fatal Mishaps

M. EDMOND PILLON, the French pilot, who accounted for eight German planes during the War, whilst testing a machine at Toussus-le-Noble aerodrome, on June 8, overturned when landing and succumbed to his injuries. His passenger, M. Motan, was injured, but is progressing satisfactorily.

On June 8, Flying-Officer Melbourne Coombs, D.F.C., when flying at Heliopolis crashed, and was killed instantly.

The 1921 Pulitzer Trophy Race, September 10

WE have received from the Detroit Aviation Society the rules and regulations for this year's Pulitzer Trophy race, which is to be held at Detroit, Michigan. Originally this meeting was scheduled for the purpose of holding the second annual contest for the Pulitzer trophy, but in order to arouse the greatest possible interest in flying, the plans have been elaborated to include other events. Thus on Thursday, September 8, and Friday, September 9, there will be three events. The first of these will be a race between large multi-engined machines over a distance of approximately 264 miles, consisting of four laps of a 66 miles course. This race is for the *Detroit News* Aerial Mail Trophy and cash prizes to the amount of \$2,500, allotted as follows: First prize, \$1,500; second prize, \$750; third prize, \$250. The second event will be for light commercial aeroplanes over the same course as that of the previous event, and is for the Aviation Country Club of Detroit Trophy and cash prizes to an amount of \$2,500 allocated as in the previous contest. These two races will be flown on Thursday, September 8. On the following day there is to be a race for observation type (2-passenger) aeroplanes over the same course and for cash prizes of the same amount and allocation as in the case of the two previous contests, as well as for the Liberty Engine Builders' Trophy.

On Saturday, September 10, the race for the Pulitzer Trophy, and cash prizes as before, will be flown. This race is open to all high-speed machines, and is (we quote from the foreword of the rules and regulations) "universally recognised as an International Speed Classic of the Air." (Considering that the first of these events was held last year the term "Classic" is most amusing and typically American.) The competing machines must possess a factor of safety of $7\frac{1}{2}$ for monoplanes and 6 for biplanes, as loaded for start of race. The air speed must be above 140 m.p.h. The course is a triangular one of approximately 40 miles, and has to be covered four times, giving a total distance of approximately 160 miles. Competitors will not be allowed to "dope" the fuel with picric acid, ether, or similar highly-explosive liquids. Benzole and similar anti-knock fuels are however, permitted. Entries close on August 1, 1921.

The Grand Prix—for Gees—by Air

MANY British sportsmen find it difficult to be present at the French Classic Race, the Grand Prix, which is being run this year at Longchamps on Sunday, June 26. For such enthusiasts the Lep Aerial Travel Bureau inform us they have arranged special excursions by air. Leaving Croydon Aerodrome at 10 a.m., the passengers will travel to Paris by air where they will be provided with two nights' hotel accommodation with all meals, private cars to and from the Race Course, admission to the Grand Stand and a seat in an aeroplane leaving Paris for London at 4 p.m. The inclusive charge for the excursion is £20.

And dirt cheap at the price.

French Air Mail Lines

IN addition to the air mail line between Alexandretta and Aleppo, inaugurated by the French Army of the Levant, another line is projected which is to link up the Syrian coast with Deir-Ez-Zor, an important centre on the Euphrates about 500 km. inland, via Homs and Palmyra. This distance could be covered by an aeroplane in three hours, whereas the time now taken from Beyrut to Deir is eight days, one day by rail and then seven by camel across the Syrian Desert. At present Deir has no regular mail connection with the Syrian towns.

THE ROYAL AIR FORCE

London Gazette, May 31

Short Service Commissions

The following are granted short service commissions in the ranks stated with effect from and with seniority of the dates indicated:—

Flying Officer.—H. F. Potter; May 19.

Flying Officer from Pilot Officer.—W. F. Shaylor; May 23.

Administrative Branch

Sec. Lieut. R. R. Orchard relinquishes his temp. commn. on ceasing to be employed; April 20, 1918 (substituted for *Gazette* June 3, 1919).

Technical Branch

Sec. Lieut. J. W. White relinquishes the actg. rank of Capt. on ceasing to be employed as Capt.; Dec. 16, 1918.

Medical Branch

Flight Lieut. W. Bannerman relinquishes his temp. commn., and is permitted to retain the rank of Capt.; May 10.

Stores Branch

The follg. are granted temp. commns. on probation for Accountant duties:—
Flying Officers.—E. F. Carrall, E. J. Stokoe, L. A. W. Stower, M.C., R. C. Clayton; May 9. J. F. R. Eales-White; May 10.

Pilot Officer.—R. C. Hancock; May 9.

The seny. of all officers granted commns. in the Stores Branch for Accountant duties is provisional only. The final seny. list of all such officers will be promulgated when the establishment is completed.

Memoranda

Pilot Officer H. W. Lester is restored to the active list for temp. duty; April 11 (substituted for *Gazette* May 3).

One Overseas Cadet is granted a tempy. commn. as Sec. Lieut.; Feb. 15, 1919.

Sec. Lieut. J. A. M. Watson relinquishes his commn., and is permitted to retain the rank of Sec. Lieut.; Aug. 14, 1919.

Hon. Sec. Lieut. G. A. Spanton relinquishes his honorary commn. on joining the T.F.

London Gazette, June 3

Flying Branch

Flight Lieut. A. Rowan to be Flight Lieut. (O.) from (S.O.); Jan. 16, 1920 (substituted for *Gazettes* Feb. 10, 1920, and May 24).

Technical Branch

Capt. T. M. Ritchie is transferred to unempld. list; April 16, 1919.

Memoranda

Two Cadets are granted hon. commns. as Sec. Lieuts., with effect from dates of their demobilisation.

Hon. Sec. Lieut. W. C. Gubbins relinquishes his hon. commn. on joining T.F.

London Gazette, June 7

Permanent Commissions

The following are granted permanent commns., retaining their present substantive rank and seny., with effect from the dates indicated. *Gazettes* of those dates, appointing these officers to short service commns., are cancelled:—

Flying Offr. R. J. H. Holland; Dec. 5, 1919. *Observer Offr.* O. R. Gayford, D.F.C.; Oct. 24, 1919.

Stores Branch

Flying Offr. J. L. Denman is granted a permanent commn., retaining his

present substantive rank and seny.; Sept. 12, 1919. *Pilot Offr.* H. Cartwright is granted a permanent commn. as a *Flying Offr.*, with effect from and with seny. of Sept. 12, 1919. *Flying Offr.* J. Walker is granted a permanent commn. in that rank, retaining his seny. in the substantive rank held prior to the grant of this commn.; June 17, 1920. (Since promoted.)

Note.—*Flying Offrs.* Denman and Cartwright are transferred to the Stores Branch with effect from June 17, 1920. *Gazettes* of Sept. 12, 1919, appointing these officers to short service commns., are cancelled.

Short Service Commissions

The following are granted short service commns. in the ranks stated, with effect from and with seny. of the dates indicated:—

Flying Offr.—A. W. Wood; May 26.

Pilot Offr. on prob.—340961 A.C.1 H. J. Tovey; May 9.

Stores Branch

Flying Offr. E. J. Leech is transfd. to the Stores Branch; June 1.

Seconding and Re-seconding

Lieut. W. A. B. Buscarlet, R.G.A., is granted a temp. commn. as a *Flying Offr.* on re-seconding for four years' duty with the R.A.F., retaining his original seny. in that rank; April 13. Lieut. R. E. Brown, R.G.A., is granted a temp. commn. as a *Flying Offr.* on seconding for four years' duty with the R.A.F.; May 25.

Technical Branch

Capt. (actg. Lieut.-Col.) H. W. S. Outram, C.B.E. (T.F.), relinquishes his temp. commn. on ceasing to be employed and is permitted to retain the rank of Lieut.-Col.; Jan. 16, 1920. *Gazettes* of March 16, 1920, and May 21, 1920, relating to Lieut.-Col. H. W. S. Outram, C.B.E., are cancelled. Capt. R. J. Bennett is transfd. to the unemployed list; July 7, 1919.

Nursing Service

The following appts. are made with effect from Jan. 27:—

Matrons-in-Chief.—Miss J. M. Cruickshank, R.R.C.

Matrons.—Miss C. Cameron, R.R.C., Miss L. I. Oliver, Miss G. Nicholson, A.R.R.C.

Sisters.—Miss E. A. Plewman, Miss W. E. Molesworth, Miss M. Moddrell, Miss W. M. Coulthurst, Miss G. Taylor, Miss M. Kirkham, A.R.R.C., Miss C. E. Jenkins, Miss M. Welch, Miss B. C. S. Foosyth, Miss V. Crampton, Miss K. C. Watt, Miss M. B. Botwood, Miss C. M. Moore, Miss M. W. Campbell, Miss E. M. Blair.

Staff Nurses.—Miss M. E. Cunningham, Miss E. R. James, Miss N. G. Rees, Miss M. E. Sears, Miss M. W. Walker, Miss R. Cassidy, Miss E. L. Whittingham, Miss M. Lamont, Miss M. C. Messer.

London Gazette, June 10

Permanent Commissions

Sqdn. Ldr. R. B. Ward, A.F.C., is placed on half-pay, Scale B., from May 18 to June 20, inclusive.

Technical Branch

Sec. Lieut. P. A. B. Dyke is transfd. to the Unemployed List; July 18, 1919.

Memoranda

Five Cadets are granted Hon. Commns. as Sec. Lieuts., with effect from the dates of their demobilisation.

SERVICE BOXING

THE Finals in the Imperial Services Boxing Championships were held at Olympia on June 7. Maj.-Gen. V. A. Cooper distributed the prizes. The results were:—

Officers.

Bantam-weight.—Final: Flt. Officer Howard (R.A.F.) beat Flt. Lt. Hargreave (R.A.F.) in the second round.

Feather-weight.—First Series: Midshipman Kitcat, R.N., beat Lieut. Cronyn (Army) on points; Lieut. Lindsay (Army), a bye.

Final: Lindsay knocked out Kitcat in the second round.

Welter-weight.—Second Series: Major Le Q. Martel (Army) beat Flt. Officer Rowe (R.A.F.) on points.

Final: Martel beat Capt. Waud-Tetley (Army) in the first round.

Middle-weight.—Second Series: Capt. Gatehouse (Army) beat Lieut. Bailey (R.N.) on points; Lieut. Schoales (Army) beat Flt. Officer Ingram (R.A.F.) in two rounds.

Final: Schoales knocked out Gatehouse in the first round.

Light-weight.—Second Series: Flt. Lt. Smith (R.A.F.) w.o.; Lieut. Rees (R.M.) absent.

Final: Smith beat Lieut. McCann (Army) in the first round.

Light-heavy-weight.—Second Series: Gunner Page (R.N.) beat Lieut. Crouch (Army) in two rounds; Lieut. Ayres (R.N.) beat Lieut. Ross (Army) on points, after an extra round.

Final: Page beat Ayres on points after an extra round of two minutes.

Heavy-weight.—Second Series: Capt. Buller (Army) beat

Lieut. Darwin (R.N.) on points; Major Huntingdon (Army), w.o.; Flt. Lt. Ushar (R.A.F.), scratched.

Final: Huntingdon beat Buller in one round.

Other Ranks.

Fly-weight.—Second Series: Pte. Marsden (R.N.) beat L.-S. Patten (R.N.) on points.

Final: Marsden beat A.C.Q. Burns (R.A.F.) on points.

Bantam-weight.—Second Series: Pte. Fraser (Army) beat Sergt. Sallows (R.A.F.) on points.

Final: Bugler Lake (R.M.) beat Fraser on points.

Feather-weight.—Second Series: Stoker P. O. Cartlidge (R.N.) beat A.C.1 Carter (R.A.F.) on points.

Final: Cartlidge beat A.C.Q. Boteler (R.A.F.) on points.

Light-weight.—Final: A.C.Q. Mills (R.A.F.) beat Cpl. Downton (R.M.) on points.

Welter-weight.—Final: A. B. Hall (R.N.) beat A.C.Q. Hunter (R.A.F.) in one round.

Middle-weight.—Final: Shoeing-Smith Davis (Army) beat P.O. Garden (R.N.) on points.

Light-heavy-weight.—Second Series: Stoker Pettifer (R.N.) beat P.O. McFee (R.N.) on points; Bdr. Griffin (Army) beat Cpl. Blythe (R.A.F.) on points.

Final: Griffin beat Pettifer, who retired in the first round.

Heavy-weight.—First Series: Guardsman Penwill (Army) w.o., A.C.2 Cracknell (R.A.F.) absent; Sergt. Scott (Army), a bye; Gnr. Williams (R.N.), a bye. Second Series: Penwill beat Cpl. Leary (R.A.F.) in two rounds; Sergt. Scott (Army) beat Gnr. Williams (R.N.) in one round.

Final: Penwill beat Scott in one round.

Dunkirk Officers' Dinner

THE Third Annual Dinner for Officers who served in the Dunkirk Command of the Royal Naval Air Service, and the Royal Air Force, from 1914 to the Armistice, will be held at the Hotel Cecil on Wednesday, June 29, 1921, at 8 p.m.

Officers are requested to arrive at the Hotel Cecil as nearly

as possible to 7.30. Those who wish to be present are requested to communicate with Air-Commodore C. L. Lambe, C.B., C.M.G., D.S.O., Room 716, Air Ministry, by June 22, as the number is limited.

Tickets, £1. Envelopes should be marked "Dunkirk Dinner."

LEGAL INTELLIGENCE

Major Scarff, R.A.F., and Invention Claims

INVENTIONS relating to aircraft armament by Major F. W. Scarff, of the Royal Air Force, were the subject of claims heard before the Royal Commission on Awards to Inventors, at Martlett House, Bow Street, on June 13, Mr. Justice Sargant presiding. The claims were in respect of the Scarff ring gun-mounting, bomb-sighting apparatus, the gun-camera, and a Lewis gun attachment.

Counsel said that in 1917 Major Scarff was awarded £1,500, which was really in respect of 12 years' meritorious service. Three Zeppelins were shot down in 1917 by means of a gear invented by Major Scarff, who also trained the three officers who brought them down in the use of that gear, but the invention was not part of the claims. Major Scarff also claimed to be the inventor of the gear which enabled Lewis guns to fire through the propellers of aeroplanes. The most important of his inventions was the ring mounting; the second in importance was the bomb-sighting apparatus. The equipment of the two-seater aeroplane fighters would have been impossible without the invention of the ring mounting. The Disposals Board were now selling these mountings at the rate of £25 each to foreign Governments.

Counsel added that the Scarff ring mounting was issued in April, 1916. At that time, owing to the introduction of the Fokker machine, we were losing our air supremacy, and were really for a time half-beaten in the air. But the introduction of the mounting almost immediately gave our observers and pilots the confidence needed, and there was a very rapid recovery at the end of 1916 and 1917. The introduction of the mounting was a great boon, and 39,000 were ordered, the total expenditure being three-quarters of a million.

Counsel explained the bomb-sighting apparatus, and the other inventions which were the subject of claims. Dealing with the gun-camera, he said airmen were trained to aim and "fire" with the gun, and the camera, which was attached, showed what part of their opponent they were actually on when they "fired." The whole question was—who invented it? With regard to the Lewis-gun catch, there was an attachment to an ammunition drum which enabled airmen to pick up the drum and reload their gun quickly. Until it was introduced men had undoubtedly lost their lives by being unable to load quickly.

Major French-Brewster said that in December, 1915, he went to France and saw General Trenchard, who said the best practice they could give pilots was to send them up to fight each other, to manoeuvre against each other, and do everything except actually firing. Witness asked Major Scarff whether that could be done without bullets, and Major Scarff said it could be done by means of photographs. Leave was finally given to have a gun-camera made. There was a stop-watch inside to show the time the shot would be fired, so that when two pilots engaged one another it could be ascertained which pilot fired first. Witness carried out the trials with the gun-camera.

Counsel for Major Scarff later intimated that he proposed to abandon the claim in respect of the gun-camera.

Evidence for the Crown against the applicant's claims was given, and the hearing was adjourned until Monday.

Mr. Tait Cox's New Post

WE are glad to learn that, although he retired from actual regular flying some time ago, there is more than a possibility of Mr. Tait Cox returning to the control-stick again before long. At present, however, nothing may be said about this. In the meantime his many friends will be glad to learn that he has not quite deserted aviation, even if his activities are now of a less spectacular nature. Mr. Cox has taken over the post as manager of the aviation department of the British Oil and Turpentine Corporation, Ltd., and will in the future demonstrate the merits of "Speedwell" oil for aero engines. We understand that some rather extraordinary results have been obtained in the way of extra revolutions when "Speedwell" was used.

PUBLICATIONS RECEIVED

Aluminium Facts and Figures. The British Aluminium Co., Ltd., 109, Queen Victoria Street, E.C. Price 5s.

List of Telephone Exchanges and Cost of Calls. Geo. W. Wheatley and Co., Ltd., 95, Upper Thames Street, London, E.C.4.

Airplanes and Safety. The Travellers Insurance Co., Hartford, Conn., U.S.A.

Report No. 110. The Altitude Effect on Air Speed Indicators. National Advisory Committee for Aeronautics, Navy Building, Washington, D.C., U.S.A.

IMPORTS AND EXPORTS, 1920-1921

AEROPLANES, airships, balloons and parts thereof (not shown separately before 1910). For 1910 and 1911 figures see "FLIGHT" for January 25, 1912; for 1912 and 1913, see "FLIGHT" for January 17, 1914; for 1914, see "FLIGHT" for January 15, 1915; for 1915, see "FLIGHT" for January 13, 1916; for 1916, see "FLIGHT" for January 11, 1917; for 1917, see "FLIGHT" for January 24, 1918; for 1918, see "FLIGHT" for January 16, 1919; for 1919, see "FLIGHT" for January 22, 1920; and for 1920, see "FLIGHT" for January 13, 1921.

| | Imports | | Exports | | Re-Exportation | |
|----------|---------|---------|----------|----------|----------------|---------|
| | 1920. | 1921. | 1920. | 1921. | 1920. | 1921. |
| Jan. ... | £ 2,323 | £ 4,459 | £ 32,752 | £ 87,128 | £ 697 | £ 2,285 |
| Feb. ... | 9,320 | 2,379 | 68,932 | 59,829 | — | 19 |
| Mar. ... | 2,092 | 14 | 67,600 | 118,199 | — | 1,565 |
| April... | 5,918 | 1,370 | 148,484 | 138,983 | — | 450 |
| May ... | 761,425 | 3,350 | 237,627 | 59,624 | 400 | 1,818 |
| | 781,078 | 11,572 | 555,395 | 463,763 | 1,097 | 6,137 |

NEW COMPANY REGISTERED

HYDROGLIDERS, LTD., Audrey House, Ely Place, E.C. —Capital £5,000 in £1 shares. Builders, repairers, etc., of hydrogliders, hydroplanes, etc. First directors: F. K. McClean, J. P. A. Waller, and J. H. Nicholson.

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Abbreviations: cyl. = cylinder; I.C. = internal combustion; m. = motors. The numbers in brackets are those under which the Specifications will be printed and abridged, etc.

APPLIED FOR IN 1919

Published June 16, 1921

28,586. A. H. BOETTCHER. Bomb-dropping sights. (135,490.)

APPLIED FOR IN 1920

Published June 16, 1921

- 1,488. C. G. PULLIN and B. BECKWITH. Actuating means for control cables. (163,397.)
- 7,828. H. C. WATTS. Air-screws. (163,536.)
- 9,126. A. THURSTON. Thin metal struts, etc. (163,559.)
- 11,751. F. SMITH. Parachute pack and harness. (142,482.)
- 11,753. M. GORMAN. Safety snap-hook. (163,581.)
- 12,310. TEKNISKE FORSAGSAKTIESELSKAB. Under carriages for vibrating-wing flying machines. (158,209.)
- 13,956. R. H. DAVIS. Safety belt. (163,592.)
- 14,644. DAIMLER MOTOREN GES. Compressor for aircraft engines. (143,925.)
- 20,394. ZEPPELIN-WERKE GES. Floats for giant flying-machines. (148,440.)
- 20,713. H. JUNKERS. Monoplane aircraft. (148,890.)
- 27,532. ARMSTRONG-SIDDELEY MOTORS, LTD., and S. M. VIALE. Air-cooled cylinders for I.C. engines. (163,635.)

If you require anything pertaining to aviation, study "FLIGHT'S" Buyers' Guide and Trade Directory, which appears in our advertisement pages each week (see pages xiii and xiv).

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